

MONTANA TEEN DRIVER EDUCATION AND TRAINING

Module 3.5 – Limited Spaces Lesson Plan

Traffic Education Curriculum Benchmarks

Performing Turnabouts

The student is expected to describe and demonstrate good habits for a legal and reduced risk:

- (a) 2 point turnabouts;
- (b) 3 point turnabouts and
- (c) U-turns.

Performing Parking Maneuvers

The student is expected to describe and demonstrate the good habits for a legal and reduced risk:

- (a) angle parking;
- (b) parallel parking;
- (c) street/curb parking;
- (d) perpendicular forward parking;
- (e) perpendicular backing into parking space;
- (f) parking on a uphill and downhill with and without a curb; and
- (g) parking in restricted parking areas.

Materials Needed:

1. Module 3.5 PowerPoint Presentation
2. Module 3.5 Lesson Plan & Student Activity Work Sheets (printed out)
3. Paper and 3" model cars

Module 3.5 Activities:

1. Module 3.5 PowerPoint presentation
2. Student-centered activities: See Work Sheets
3. Problem-solving teamwork

Final Evaluation

TEACHER COMMENTARY

The following questions can be asked during the presentation to engage students and have them develop key concepts related to vehicle control in limited spaces

Representation of the module slides are provided to allow you to connect the materials, data, and questions with the presentation.

Slide 2 – What are limited spaces?

Limited spaces are parking lots, parallel parking locations, tight corners, and specific turnabout maneuvers. More vehicle damage is done in limited spaces because of the greater risk of bumping into the side or back of a car. *(more ...)*

What are limited spaces?

Good skills will help you manage your limited spaces.

Start a discussion about how difficult it is to get through the school hallways during passing without everyone bumping into each other.

Questions you may want to ask:

- 1. What do you have to do to maneuver through the crowded halls without bumping into someone?**
- 2. What would happen if you tried to run through the halls during passing? Is speed an important factor in avoiding someone?**
- 3. Do you sometimes plan your maneuvers when going through the halls to avoid hitting someone?**

Slides 3 and 4:

Teacher should solicit responses to these questions because many students don't understand the rationale for turnabouts and parking maneuvers.

Why do I need this skill?

- 1. Because I may find I am going in the wrong direction and need to turn around.**
- 2. I may be in the woods or on a narrow roadway and need to go back from where I came.**
- 3. I may have missed my turn and have to go back to it.**

There are many reasons but these are just a few.

For Parking

- 1. I won't always be driving a car and at some time will become a pedestrian.**
- 2. I need to develop skills for parking in more than one way because parking spaces and locations are not all the same.**

We will address their common elements in future slides.

Risks

Tight spaces, crossing traffic and chances of being hit or striking something or someone else backing up—to name just a few.

How can I minimize the risks?

Let's see.



Questions

- Why do I need this skill?
- What do all these skills have in common?
- What are the risks when doing one of these maneuvers?
- What do I need to know to minimize the risks for each of these tasks?

Slide 5:

In each of the maneuvers there are common elements that don't need to be belabored.

The first is approach. Each requires that the driver approaches the maneuver with precision—using reference points—and getting in position to execute the maneuver.

The second is signal. Each requires some type of communication that indicates to those around you that you are going to be changing your location or direction.

The third is that each requires a search. You may need to search to the front of the vehicle, blind spot check of the vehicle, or some other area but each maneuver requires that a search be of your surroundings.

Common Elements of Maneuvering in Limited Spaces

- **Approach** with precision.
- **Signal** to communicate.
- **Search** to know what's around you.

Slide 6:

These are listed in increasing levels of complexity.

1. Why is a right alley or two-point turnabout less risky than a midblock U-turn?
2. Why is a Left Alley or driveway turnabout more risky than a Right Alley or driveway turnabout?

There are myriad questions that may be asked here. The important thing is that you get students thinking about their options and the risks they will encounter when they choose to execute those options.

Turnabouts

- **Right Alley (driveway) or Two-Point Turnabout**
- **Left Alley (driveway) Turnabout**
- **Y-Turn**
- **U-Turn**
 - Mid-block
 - At an intersection

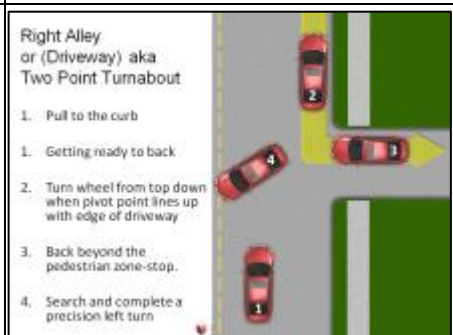
Slide 7: Right Alley or Driveway – Two-Point Turnaround


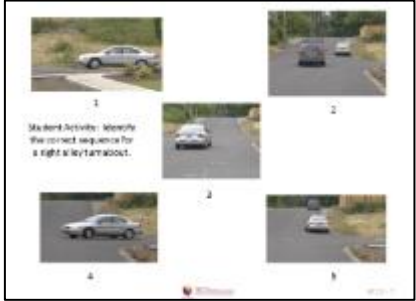
Approach

1. **Signal**
2. **Check right side blind spot**
3. **Pull to the curb 12 inches away**
4. **Use reference point to get side position**

Alignment and getting ready to back

1. **Pull past the driveway or alley**
2. **Stop and do 360° search**
3. **Foot on brake and shift to reverse**



<p>Backing and turning</p> <ol style="list-style-type: none"> 1. Back to where pivot point aligns with the near edge of alley or driveway 2. Begin turning 3. Be aware of front swing <p>Backing past the pedestrian zone</p> <ol style="list-style-type: none"> 1. Target to the rear 2. Back past the pedestrian zone 3. Stop and shift to drive <p>Precision left turn</p> <ol style="list-style-type: none"> 1. Safety stop 2. Search 3. Execute precision left turn 	
<p>Slides 8-9: Click through 5 photos on slide 8</p> <p>Approach</p> <ol style="list-style-type: none"> 1. Signal 2. Check right side blind spot 3. Scan to right to check for cars in the alley or drive as you pass your road or turnabout location 4. Pull to the curb 12 inches away 5. Use your reference point to get side position <p>Alignment and getting ready to back</p> <ol style="list-style-type: none"> 1. Pull past the driveway or alley 2. Stop and do 360° search 3. Foot on brake and shift to reverse <p>Backing and turning</p> <ol style="list-style-type: none"> 1. Back to where pivot point aligns with the near edge of alley or driveway 2. Begin turning 3. Be aware of front swing <p>Backing past the pedestrian zone</p> <ol style="list-style-type: none"> 1. Target to the rear 2. Back past the pedestrian zone 3. Stop and shift to drive <p>Precision left turn</p> <ol style="list-style-type: none"> 1. Safety stop 2. Search 3. Execute precision left turn 	 <p>Slide 9 Student Activity</p>  <p>Correct Photo Sequence is:</p> <p>3 approach, 2 pulling to curb, 5 backing around corner, 1 stop and search, 4 complete left turn.</p>

Slide 10: Click to play video

Play the video and walk the students through the steps. You may want to reinforce the concept with model roadways and model cars so students can perform the elements of the maneuver before they get into the car.

Left Alley (Driveway) Turn-Around

2.5-minute video

Slides 11-13: Three Point or Y Turns

Click slides 12 & 13 to play videos (1.35 minutes)

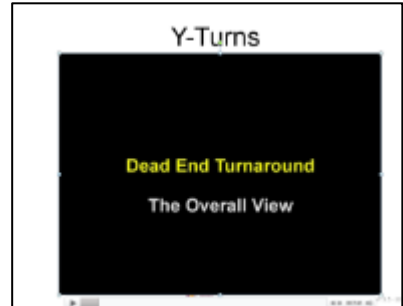
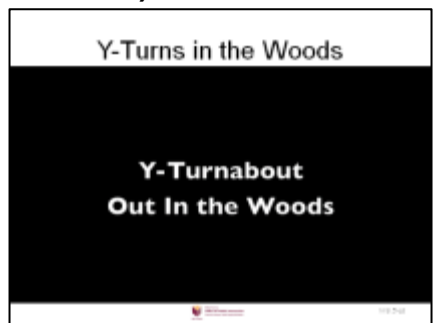
Usually done when there is no driveway or alley way to do a turnabout.

Requires you to cross lanes of traffic and exposes you to more risk as you do the turnabout. Should be done in areas with good visibility and low speed traffic.

Consider this: most roads in Montana have speed limits of 65-70 mph. A car traveling at 70 mph covers 104 feet per second.

A Y-turn can take 10 seconds or longer to perform. That means the higher the speed limit on the road the greater visibility and time you will need to complete the Y-turn.

When you perform the Y-turn make sure you have good visibility, enough time to safely complete the maneuver, and time.

Slide 12 - Y-Turns**Slide 13 - Y-Turns in the Woods (Pickup truck on a dirt road)****Slides 14-15: U-Turns at an intersection & mid-block**

U-turns are usually performed at an intersection with a light where it is allowed by a sign. There are several places where a U-turn is not permitted.

This slide lists places where U-turns are illegal. You can have the students look those places up in the driver's manual or you can review them on the next slide.

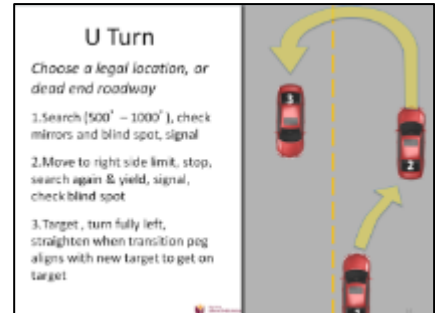


Slide 16: Practicing U-Turns

The skill for executing a U-Turn should be practiced first in the parking lot and then in a low to no traffic area such as a residential street.

At no time should you practice this very risky and complex maneuver on a busy street or highway. You increase your risk and risk to the students by having them practice in high speed traffic situations and increase your liability exposure.

Consider that if you practiced this on a roadway where the speed limit was 70 mph the approaching traffic would be traveling at 104 feet per second and the novice driver would have only five to ten seconds to complete this complex maneuver.

**Slide 17:**

Intersection U-Turn Green Light

Far Left Lane—notice that the U-turn described in the previous slide was for a mid-block, not an intersection, U-turn and therefore has a different second step, i.e., the driver does not pull to the curb, but stays in the far left lane.

Use as little space as possible and watch for conflicts.




Click image to play video

Slide 18:

U-turns can be performed at intersections when permitted and you have the right of way. In this case, you can only execute the turn when you have the green arrow.



<p>Slide 19:</p> <p>Eventually the driver must park the car and become a pedestrian.</p> <p>There are 5 parking maneuvers that the driver will have to practice in limited spaces to safely park the car.</p> <p>This section will help the student know the legal places to park and how to drive in the limited spaces of a parking spot.</p> <p>Each of the parking maneuvers have risks associated with them and the risk needs to be evaluated when choosing a parking maneuver.</p> <p>Help the students understand what the risks are and how they can minimize them by choosing low risk parking strategies.</p>	<p>Parking Maneuvers</p> <ul style="list-style-type: none"> • Forward Angle Parking • Forward Perpendicular Parking • Back-in Perpendicular Parking • Pulling to the Curb • Parallel Parking on a Street
<p>Slide 20: Student Activity</p> <p>Students need to know where it is not legal to park. Taken from pages of the Montana Drivers License Manual. Follow this link to access the Manual online https://doj.mt.gov/driving/forms/</p> <p>No Parking is allowed:</p> <ul style="list-style-type: none"> • Within an intersection • Within 20 feet of a crosswalk or sidewalk at an intersection • In a construction area if your vehicle would block traffic • Within 30 feet of a traffic signal, stop sign, or yield sign • Within 15 feet of a fire hydrant • Within 50 feet of a railroad crossing • More than 18" from the curb • Within 20 feet of a fire station driveway on the same side of the street, or within 75 feet of a driveway on the other side of the street • Blocking a driveway, alley, private road, or area of the curb removed or lowered for access to the sidewalk • On a bridge or elevated structure or in a tunnel or underpass 	<p>Student Activity</p> <ul style="list-style-type: none"> • Materials <ul style="list-style-type: none"> – Pencil, paper, Montana Driver's Manual • Work in groups of two • As a group list as many places as you can where parking is NOT permitted

<ul style="list-style-type: none"> • On the wrong side of the street • On the road side of a parked vehicle (double parking) • On railroad tracks • Wherever a sign says you cannot park • In a space marked for the handicapped, unless you have a handicap license plate, tag, or sticker (you may be fined for improper parking in Handicapped Parking Only) • If there is no curb available to stop or park, pull over as close as practicable to the edge of shoulder. • Vehicles parked on a roadway or shoulder during hours of darkness shall have lights front and rear visible for 500 feet. If headlights are on, they shall be dimmed. 	
<p>Slide 21: Common Elements Each of the parking maneuvers has common elements with each other.</p> <ol style="list-style-type: none"> 1. Approach 2. Side Position 3. Speed control 4. 45 and 90 degree angles 5. Rear Pivot points 6. And targeting the center of a space. <p>The repetition of common elements for each maneuver has been removed to minimize the amount of work.</p>	<p>Each parking maneuver requires that you use:</p> <ul style="list-style-type: none"> • the same approach - signal, apply the brake, approach slowly • a side position 3 feet away • an inching speed • a 45° angle • the rear pivot point • a target in the center of your space
<p>Slides 22 and 23 – Forward Angle Parking</p> <p>Of all the parking maneuvers, forward angle parking is the least complex.</p> <p><i>For step-by-step instructions, print out the Forward Angle Parking Work Sheet in the Fact/Work Sheet folder in Module 3.5.</i></p> <p><i>See also a work sheet to practice Forward Angle Parking Reference Points.</i></p>	<div data-bbox="1019 1302 1445 1610"> <p>Forward Angle Parking</p>  </div> <p><i>Click on Slide 23 to play video.</i></p>

Slide 24 – Forward Angle Parking

Click through 10 layered photos

What does it look like from eye level?



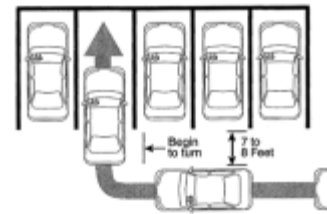
Slide 25 - Backing Up Warning

Backing a vehicle is a high-risk maneuver!
Your view around the vehicle is blocked. When you have a choice, move forward. If you have to back up, use risk prevention behaviors.

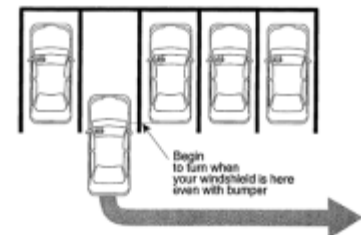
Slides 26 & 27 - Forward Perpendicular Parking and Un-Parking

For step-by-step instructions, print out the Forward Perpendicular Parking and Un-parking Work Sheet in the Fact/Work Sheet folder in Module 3.5.

Forward Perpendicular Parking



Forward Perpendicular Un-Parking



Slide 28

Back-in perpendicular parking is the safest way to perpendicular park because you can see around you as you approach, see what you are backing into and have an easy exit when leaving the spot with good visibility. You can also leave more quickly and you don't run the risk of backing over someone.



[Click to play video](#)

Slide 29 - Parallel Parking

Click on the video to play and to pause it and discuss the various steps that the driver is taking to parallel park.

This is the most difficult parking maneuver because it involves backing, turning and managing the areas around the car that might strike another vehicle. It also involves stopping in traffic and parking while others are waiting and watching. This procedure takes a moment to learn and a lifetime to perfect.



[Click to play video](#)

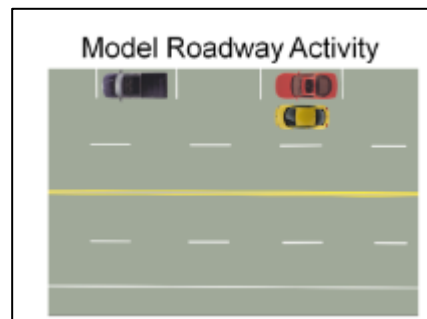
Slide 30 - Parallel Parking Student Activity

Practice parallel parking with model roadway map and 3-inch model cars.

A sample roadway and cars are presented here so you can talk students through the process.

The student activity is in the Limited Spaces Fact/Worksheet folder and needs to be printed off and cars assembled before class starts.

Follow the instructions on the Parallel Parking Worksheet to practice parallel parking in class.



Slides 31 – 32 Hill Parking

- Downhill with a curb
- Downhill without a curb
- Uphill with a curb
- Uphill without a curb



This is from page 51 of the Montana Drivers Manual. The following slides show what it looks like from behind the vehicle.

Slide 33 - Downhill with a Curb

1. Six to twelve inches from the curb.
2. Wheels turned toward the curb.
3. Turn wheels to the right, away from the road.
4. Why would you turn the wheels toward the curb? What happens if your parking brake fails?
 - *If the car rolls forward, a curb will stop it from rolling any further.*
5. Secure the vehicle.
6. Brake set.
7. Shift to park.
8. Turn ignition off.
9. Exit the vehicle and walk toward rear.

Downhill With a Curb**Slide 34 - Downhill without a Curb**

1. Turn wheels to the right, away from the road.
2. Why would you turn the wheels away from the roadway in this situation?
 - *If the car rolls forward, it will roll out of the flow of traffic.*

Downhill Without a Curb

Slide 35 - Uphill with a Curb

1. Why turn your wheels this direction when you are parking uphill with a curb?
2. What would happen if the brake and transmission were to let go and the car started to roll?
 - *If the car's braking system failed while it was parked the car would roll back to the curb and stop the car. If the wheels were directed toward the curb the car might continue to roll and create a hazard.*

Uphill with a Curb**Slide 36 - Uphill without a Curb**

1. Why is this different than uphill with a curb?
2. What would happen if the brakes and transmission failed?
 - *The car would roll off the street and into the ditch or possibly a yard or field. It keeps the car from rolling out into the middle of the street since there would be no curb to stop the car.*

Uphill Without a Curb**Slide 37 – Secure your car****Secure Your Car**

Right foot on brake
 Set parking brake
 Shift to "Park"
 Turn off accessories
 Turn off engine
 Check for traffic before exiting
 Lock up

